FIG. 8 shows a basic spring activated toy 30, consisting of an upper weight 12 with an advertising LOGO, the compression spring 15, a dead coil base 32 and 3 retaining clips 46.

CLAIMS PREAMBLE

Compression springs used for the amusement of children have a long history. Efforts to make a vertical compression spring oscillate failed because the spring would jump off the surface on which it was standing. This had several effects. First the base of the spring would oscillate upwards causing the top of the spring to lose its downward force. Oscillations would cease immediately. Second, compression springs when compressed and released never push up equally around the entire base. The end of the coil closest to the supporting surface, no matter how arranged, will always push up before the rest of the base causing the spring to pitch over and fall on its side. Oscillations would then again cease immediately. Weights also were added, indiscriminately, on the side of the spring unbalancing it. This also caused it to pitch over. To prevent this an attempt was made to use a relatively much larger diameter helical spring. The diameter of the spring wire was also increased to add weight to hold the spring down and the coils were wound closer together so the spring could not jump as high. These modifications froze the action of the spring preventing it from oscillating. To overcome this an excessively heavy weight was added to the top of the spring to get it to compress. The result was more of a minimal motion or rapid vibration than an oscillation and the base of the spring still jumped up and down away from the supporting surface. These modifications again bringing even a minimal motion to a rapid end.

THEREFORE I claim as my invention:

1) Wherein a portable, vertical, upright, compression spring is made to any desirable size and shape, with means for preventing the base of the spring from jumping off the ground when the spring is compressed downwards and released.

2) Wherein without modifying the desirable size and shape of the spring Hooks law is applied to determine the diameter of the spring wire, the diameter of the spring, and the weight to be applied to the top of the spring in order to give the spring the slowest cycle of up and down motion, the longest possible up and down traverse of the spring along its vertical axis and the longest duration of oscillation with the base of the spring held stationery.

3) Wherein sufficient weight or means of attaching the base of the spring to a weighted surface is added to the base of the spring in order to prevent the base of the spring from bouncing off the surface when operated free standing.

4) Wherein a clamping means is attached to the base of the spring, the clamp when fastened to a weighted horizontal or vertical surface prevents the base of the spring from jumping up when the spring is compressed and released.

5) Wherein a number of extra spring coils are continued at the base of the spring, parallel to each other and held in contact with each other in a cluster known as dead coils, the weight of these extra coils being sufficient to prevent the base of the spring from jumping into the air when the spring is depressed and suddenly released, the weighted coils allow the devise to be operated without clamps.

6) Wherein the top end of the compression spring and the bottom end of the spring are finished off with a 90 degree or similar indent.

7) Wherein a non-weighted retaining ring enclosure with flanges and indentations is added for inserting, attaching, locking and concealing the indented end of the wire and concealing the weighted multiple coiled base of the spring.

8) Wherein a weighted retaining ring enclosure with flanges and indentations is added for inserting, attaching and locking the base of the spring to it and eliminating the necessity for the dead coils.

9) Wherein a pair of sliding clips are attached over the flanges on the retaining ring base where the spring exits the base, one clip sliding under the spring the other clip sliding over the spring, the clip under the spring when slid further under the spring moves the spring up and forward, the clip over the spring when slid further over the spring moves the spring down and backwards, both adjusting the spring to a more perfect vertical position.

10) Wherein a shaped, evenly weighted element, with flanges and indentations is inserted, centrally attached and locked to the top of the spring safely concealing the indented end of the spring.

11) Wherein a pair of finger grips is fastened to the base of the spring, the grips projecting outward enabling them to be grasped in a persons fingers in order to lift and play with the unit while holding it in their hands.

12) Wherein a horizontal pair of projections, mounted on or near the top coils, on directly opposite sides of the spring and from each other and on a line projecting outwards through the center of the coil, act as stabilizers.

13) Wherein the various parts of the gyrating action toy claimed in 1) to 12) above are made to look like parts of a doll giving the toy the appearance of a doll,

the weighted top becomes a doll's head,

the out stretched stabilizers become shoulders, arms and hands,

the finger grips on the base become feet,

the locking indentations on the end of the spring, described in claim 6), index the face and the feet so they are always facing in the proper direction,

a light weight piping is snaked around the coiled spring to simulate clothing without attenuating the oscillations.

14) Wherein the open base of the spring is crosshatched or closed preventing a young child from placing the spring over his head like a hat.

15) Wherein a filament is connected between the weighted head and the weighted base, the length of the filament allowing it to remain slack while the toy is oscillating but when the toy is lifted by the head or the hand the filament does not allow the weighted base of the spring to stretch the spring beyond its tensile limit and distort.